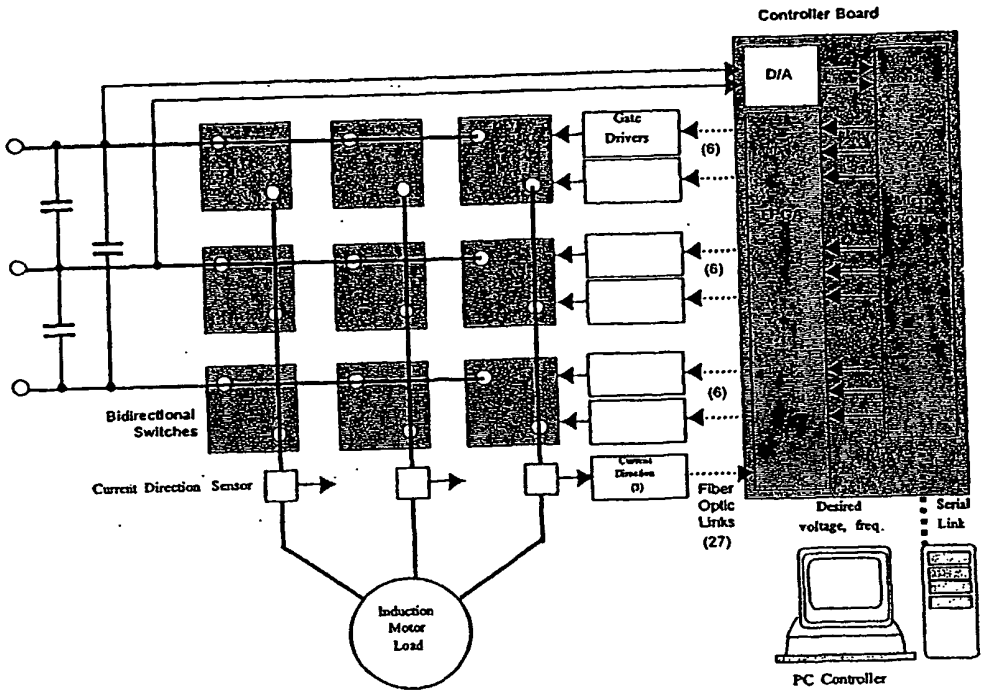

Figure 1: The Matrix Converter Circuit and Controller

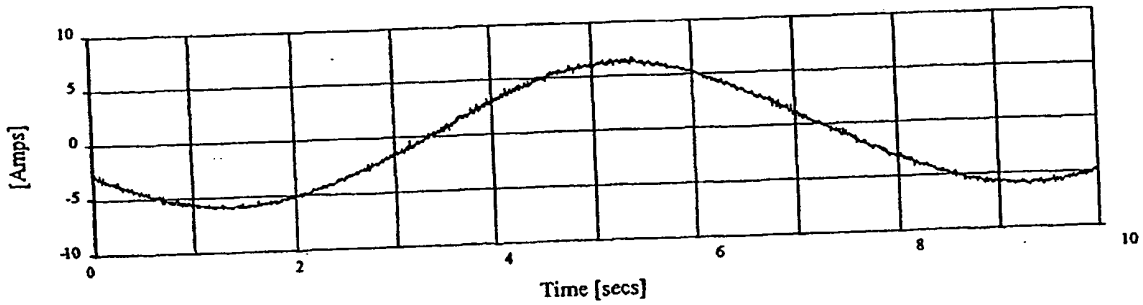

Figure 2A An Output Current Waveform for the Matrix Converter with an Induction Motor Load Switching Frequency =4kHz, Motor Shaft Speed = 3rpm

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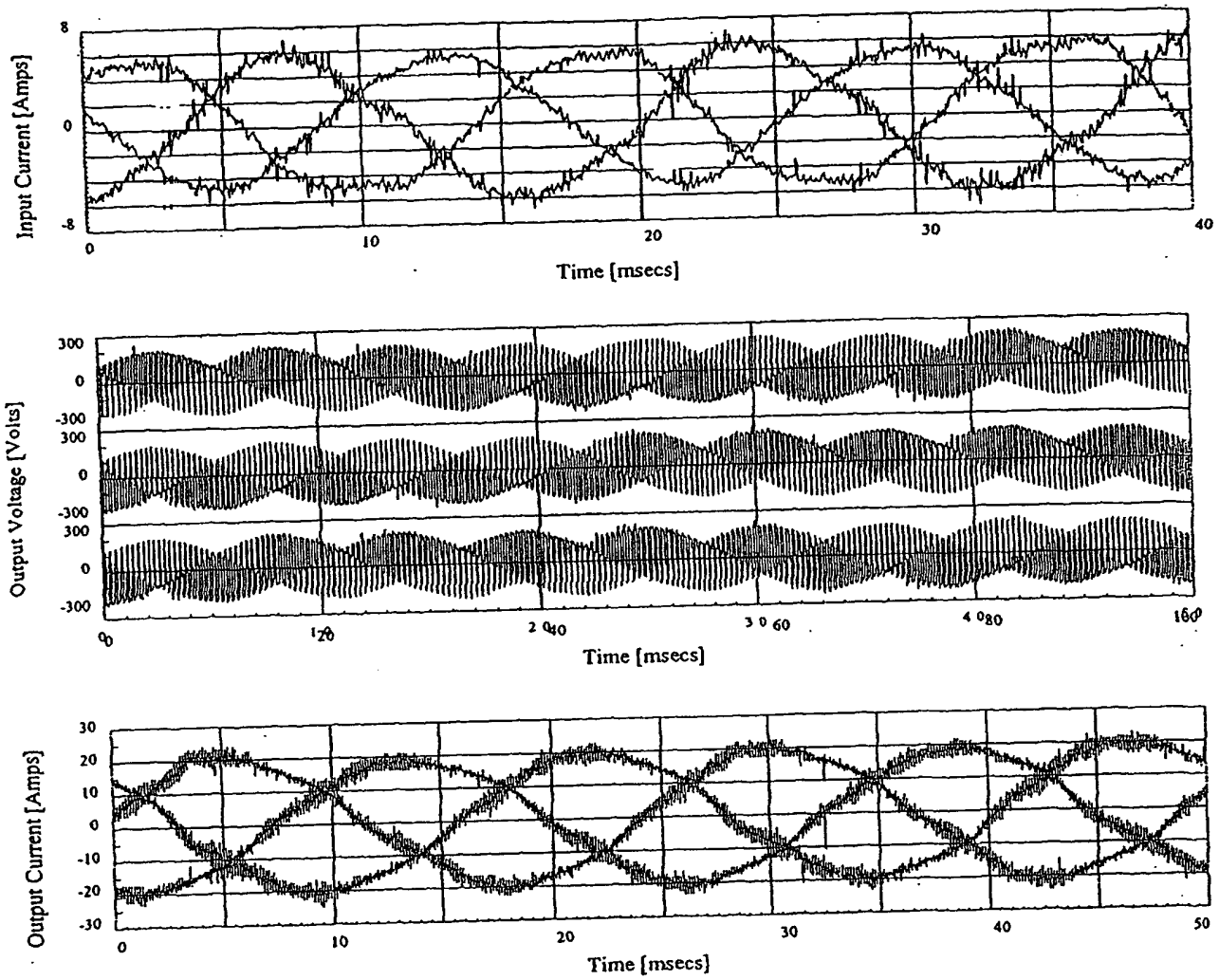

Figure 2B **Input Current, Output Voltage and Output Current Waveforms for the Matrix Converter with an Induction Motor Load**
Switching Frequency =4kHz, Input Frequency = 60Hz, Output frequency = 40Hz

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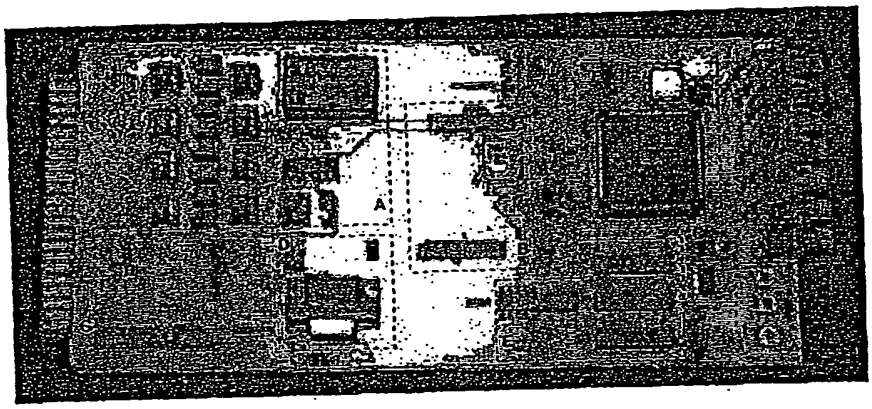

Figure 3 Photograph of the controller card

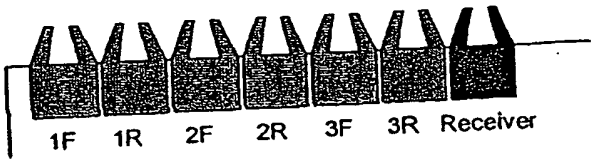

Figure 4A

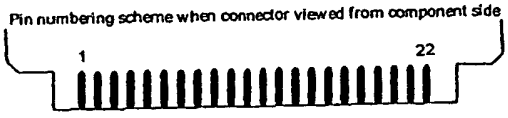

Figure 4B

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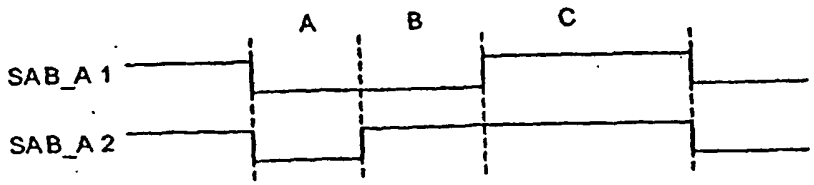

Figure 5 Micro con troller PW M ou tput

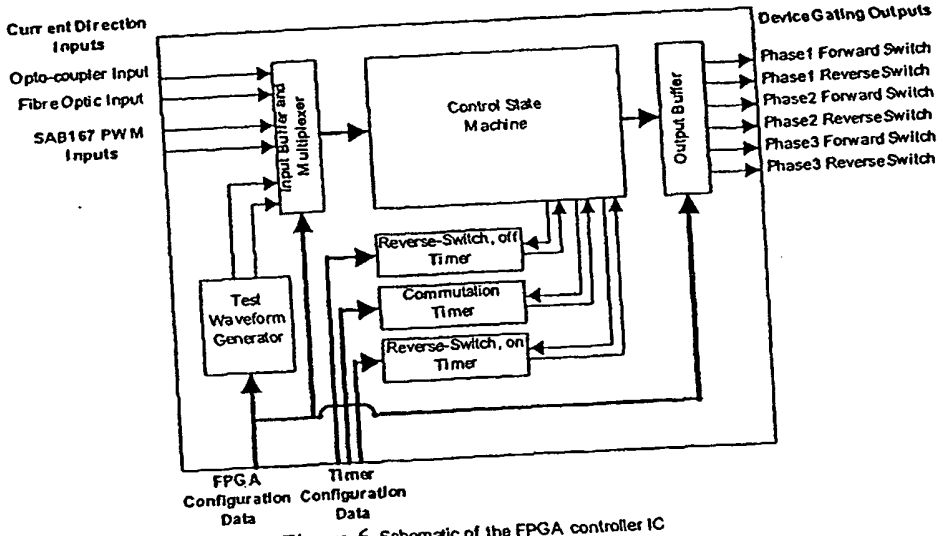

Figure 6 Schematic of the FPGA controller IC

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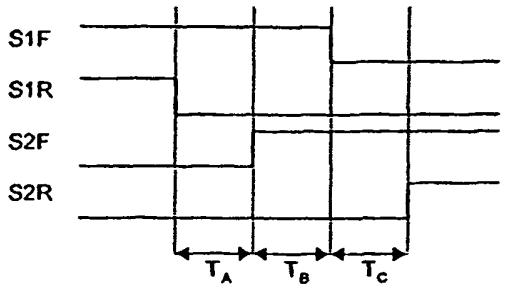

Figure 7

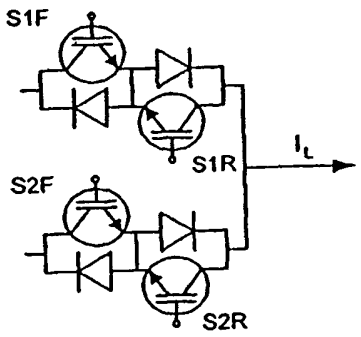

Figure 8

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